EXECUTIVE SUMMARY

Study Findings: A Two-Year Birth Cohort

NEXT STEPS
Based on the findings from LIFE, the LIFE consortium is expanding to embark on implementation science research to design and test a lactation support and management package for in-facility, high risk infants and as they transition home; and explore interventional research to improve feeding of vulnerable infants in the facility setting.

FOR MORE INFORMATION
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PARTNERS

Lead
Ariadne Labs, a joint center for health systems innovation at Brigham and Women’s Hospital and Harvard T.H. Chan School of Public Health. With a mission to save lives and reduce suffering, our vision is that health systems equitably deliver the best possible care for every patient, everywhere, every time. Our work has been accessed in more than 165 countries, touching hundreds of millions of lives.

Study Partners
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■ Sri Ramas Chandra Bhanja (SCB) Medical College and Hospital, Cuttack, India
■ JMM Medical College, Davangere, India
■ SS Institute of Medical Sciences, Davangere, India
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■ Muhimbili University of Health and Allied Sciences (MUHAS), Dar es Salaam, Tanzania
■ Emory University, Atlanta, GA
■ Brigham and Women’s Hospital, Boston, MA
■ Boston Children’s Hospital, Boston, MA
■ Harvard T.H. Chan School of Public Health, Boston, MA
■ PATH, Seattle, WA
■ University of North Carolina at Chapel Hill, Chapel Hill, NC

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NEW EVIDENCE AND CONTRIBUTIONS FROM THE LIFE STUDY

■ Despite being predominantly breastfed, the 1,100 moderately low birthweight infants in the LIFE study had suboptimal growth throughout infancy. Later growth outcomes were heavily influenced by birth outcomes, as well as growth in early infancy.
■ Not all moderately low birthweight infants are alike. Specific characteristics make some low birthweight infants more vulnerable than others to illness, slow growth, and even death. These poor outcomes may be avoided with focused interventions at key timepoints.
■ Growth monitoring soon after birth allows for early identification of risk and proactive intervention to prevent poor growth and developmental outcomes in later infancy.
■ Growth and feeding assessment tools designed specifically for low birthweight infants in resource-limited settings are needed to facilitate targeted lactation support, clinical decision-making, and allocation of scarce resources.

OVERVIEW OF LIFE STUDY

JUSTIFICATION: Low birthweight infants, particularly those born in low- and middle-income countries, are at increased risk for death, illness, feeding difficulties, growth deficits, and developmental delays.

METHODS: The LIFE study is a multi-site, mixed-methods, observational cohort study. Data collection was conducted for a one-year cohort in India Odisha State and Malawi and for a two-year cohort in India Karnataka State and Tanzania.

STUDY AIM: The goal of the LIFE study is to understand current feeding practices, growth patterns, child development, and other health outcomes among low birth weight (LBW) infants (1.50–2.49kg) in resource-limited settings through the first 24 months of life. Ultimately, the study aims to identify potential interventions and target groups, inform the research agenda, and enhance global guidelines.
Improve Developmental Outcomes

**KEY ACTION 3:** Develop a suite of standardized tools specific to low birthweight infants that clinicians, policymakers, and other stakeholders can implement to assess growth and breastfeeding quality.

Guidance is lacking on the application and interpretation of existing child growth standards and breastfeeding assessment tools for low birthweight infants. Developing guidance and refining tools for specific application to

Enhance Support for Infant Feeding

**KEY ACTION 5:** Develop, evaluate, and scale programs that provide effective, specialized lactation support and feeding counseling to address the needs of low birthweight infants in facilities and communities.

Develop, evaluate, and scale programs that provide effective, specialized lactation support and feeding counseling to address the needs of low birthweight infants in facilities and communities. The study found that while 44% of mother-infant pairs reported feeding difficulties, feeding counseling and support were neither universal nor consistent. Though early initiation of breastfeeding is known to have benefits for infant feeding and milk supply, only 37% of newborns in the study had initiated breastfeeding within one hour of birth, and even fewer among preterm infants. A great deal of global investment has been made in lactation support, however, low birthweight infants and their mothers face unique challenges in these areas. Curricula specific to their needs that promote frequency of feeding, milk expression to increase supply, transition to complementary foods, hygiene safety, kangaroo mother care, and monitoring for danger signs should be developed at the facility and community level and tested to understand their feasibility, acceptability, and impact on feeding and growth outcomes.

**KEY ACTION 6:** Establish national programs to improve affordability of diverse foods to allow families to feed their low birthweight infants a balanced diet starting at 6 months.

Mothers reported cost as the main barrier to feeding infants certain nutritious foods, and infants born to mothers in households with lower incomes were less likely to achieve optimum dietary outcomes at 12 and 24 months.